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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,341	03/25/2004	Hyun-kyu Yun	101-1019	5441

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EXAMINER

CHOI, WOO H

ART UNIT PAPER NUMBER

2189

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/808,341

Applicant(s)

YUN ET AL.

Examiner

Woo H. Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 and 19-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: "eight" should be changed to "eighth." Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 18 is rejected under 35 U.S.C. 101 because it recites an apparatus and a method step in a single claim. The claim is neither directed to a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites the limitation "the at least three memory devices in the first and

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third rows. The first and the third row each contain at least three devices. It is not clear which three “the at least three memory devices” refers to.

6. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is directed to an apparatus, but also requires a method step to be performed. It is unclear, if allowed, whether an infringement occurs when the apparatus is created or when it is actually put to use to perform the recited method step. See *IPXL Holdings v. Amazon.com Inc.*, 430 F.2d 1377, 1384, 77 USPQ2d 1140, 1145 (Fed. Cir. 2005); *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

The claim also recites the limitation “at least on of **the** first and second motion picture image data stored ....” There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

((b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. 12 – 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Alves et al. (US Patent Application Publication No. 2003/0007636, hereinafter “Alves”).

9. With respect to claims 12, and 14, Alves discloses a DSP (Digital Signal Processing) architecture with a wide memory bandwidth, the DSP architecture (figures 1 and 2) comprising:

a first communication port (figure 2, 220; see also figure 1, there are multiple I/O connections between 106 and 112, 110, and 120) to receive first motion picture image data divided into image frames;

a second communication port (see figure 2, 220 and 230; see figure 1, 106 has multiple I/O ports);

a first arrangement unit connected to the first communication port and the second communication port (figure 2),

wherein the first arrangement unit comprises first through eight memories (figure 2, top left 3x3 matrix of RCs) and a calculation element (RC in the middle of the matrix, each RC comprises functional units, i.e. calculation elements, and memory) to access the respective image frames of the first through eight memories which are arranged in a matrix structure having three columns and three rows, the second and seventh memories are connected to the second communication port through the calculation element (all elements are connected to all other elements and ports, i.e., there is a connection to any port through any element), and the fourth and fifth memories are connected to the first communication port through the calculation element.

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9. With respect to claims 13, 15 and 16, see figure 2, 230 and 220 are connected to all RCs though adjacent RCs.

10. Claims 1 – 6 and 12 – 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki et al. (US Patent Application Publication No. 2003/0220562, hereinafter “Sasaki”).

11. With respect to claims 1, 6, 12, 14, Sasaki discloses a DSP (Digital Signal Processing) architecture with a wide memory bandwidth, the DSP architecture (figure 14) comprising:

a first communication port (each PE has at least three ports that connect to ports of other PEs; also, although not shown, I/O ports external to the matrix are implicit, if not inherent, as the matrix would be useless without being able to move data in and out of the matrix);

first, second, and third memory devices (figure 14), which are connected with the first communication port and are arranged in a first row direction of the DSP architecture;

a fourth memory device, a calculation element, and a fifth memory device, which are arranged in a second row direction below the first row direction of the DSP architecture (each PE has a calculation circuit and memory circuit); and

sixth, seventh, and eighth memory devices (third row), which are connected with the first communication port and arranged in a third row direction of the DSP architecture, wherein the calculation element is surrounded by the first through the eight memory devices and is directly connected with each of the first through the eight memory devices (see figure 14).

***Allowable Subject Matter***

12. Claims 11 and 17 are allowed.

***Response to Amendment***

13. Claim 15 has been amended to overcome an objection. Corresponding objection is withdrawn.

***Response to Arguments***

14. Applicant's arguments filed September 7, 2006, with respect to the rejections above have been fully considered but they are not persuasive.

With respect to Applicant's argument regarding rejection of claims 12 and 14 based on Alves, communication ports to receive data are taught by Alves as discussed above. As to "a calculation element ... to process ...", limitation as noted in the rejection, there's a calculation element in every RC that is used to process and transfer data. With respect to the type of data to receive and store recited in claim 14, the "limitations" are phrased using what seems to be a term that denotes intended use. There's nothing to suggest that the digital signal processor disclosed by Alves cannot be used to encipher or decipher motion picture image data. If Applicant wishes to clearly limit the scope of claimed apparatus for use with motion picture image data only, the Examiner suggests that the claims be amended to recite actual storage of motion picture image data in the memory elements. Alternatively, Applicant can use terms, such as "for receiving" or

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“for storing”, as these term have been consistently interpreted as denoting functional limitations rather than intended use “limitations.”

15. With respect to Applicant’s argument regarding Sasaki reference, they are not persuasive for reasons stated below. The “first communication port” limitation has been addressed in the rejection above. As to Applicant’s argument that the embodiment of figures 14 and 18 are different because one is a matrix and the other a tree, the argument misses the point entirely. The rejection does not combine the multi-processor structural arrangement of the two teachings, as Applicant seems to have misinterpreted. The rejection refers to figure 18 (as evidence) to show that Sasaki explicitly shows what is implicit, if not inherent, in every PE - that a processing element comprises memory elements, and therefor, a PE reads on the “memory device” limitation. As to Applicant’s other arguments, substantially the same arguments have been made in reference to Alves’s disclosure. The Examiner addressed these arguments above.

### ***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37




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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Woo H. Choi whose telephone number is (571) 272-4179. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Woo H. Choi  
March 8, 2007